

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:

Masaki SUGIYAMA, et al.

Application No.:

Group Art Unit:

Filed: December 2, 2003

Examiner:

For: OPTICAL MODULATOR AND DESIGN METHOD THEREFOR

**INFORMATION DISCLOSURE STATEMENT**

Commissioner for Patents  
PO Box 1450  
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure provisions of 37 CFR § 1.56, there is hereby provided certain information which the Examiner may consider material to the examination of the subject U.S. patent application. It is requested that the Examiner make this information of record if it is deemed material to the examination of the subject application.

1. Enclosures accompanying this Information Disclosure Statement are:

- 1a. ☒ Form PTO-1449.
- 1b. ☐ Copies of IDS citations.
- 1c. ☐ An English language copy of search report(s) from a counterpart foreign application or a PCT International Search Report.
- 1d. ☐ English language translation (complete or relevant portion(s)) attached to each non-English language publication.
- 1e. ☐ Explanations of Relevancy of References (ATTACHMENT 1(e), hereto) for providing a concise explanation of each non-English publication.
- 1f. ☐ List of Copending Applications (ATTACHMENT 1(f), hereto).
- 1g. ☐ List of Additional Submitted Documents (ATTACHMENT 1(g), hereto).

2. ☐ This Information Disclosure Statement is filed under 37 CFR §1.97(b):

*(Check either Item 2a or 2b or 2c or 2d)*

- 2a. ☐ Within three months of the filing date of a national application other than a Continued Prosecution Application under § 1.53(d);
- 2b. ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application.
- 2c. ☐ Before the mailing of a first Office Action on the merits; or
- 2d. ☐ Before the mailing of a first Office Action after the filing of a Request for Continued Examination under § 1.114.

3. ☐ This Information Disclosure Statement is filed under 37 CFR § 1.97(c) after the period specified in paragraph 2 above but before the mailing date of any of a Final Office Action under § 1.113, a Notice of Allowance under § 1.311 or an action that otherwise closes prosecution in the application, AND

*(Check either Item 3a or 3b; Item 3b to be checked if any reference known for more than 3 months)*

- 3a. ☐ The §1.97(e) Statement in Item 5 below is applicable; OR  
3b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  
☐ enclosed.  
☐ to be charged to Deposit Account No. 19-3935.

4. ☐ This Information Disclosure Statement is filed under 37 CFR §1.97(d) after the period specified in paragraph 3 above, but on or before payment of the Issue Fee, AND

- 4a. ☐ The § 1.97(e) Statement in Item 5 below is applicable; AND  
4b. ☐ The \$180.00 fee set forth in 37 C.F.R. §1.17(p) is:  
☐ enclosed.  
☐ to be charged to Deposit Account No. 19-3935.

5. ☐ Statement under § 1.97(e) (*applicable if Item 3a or Item 4a is checked*)

*(Check either Item 5a or 5b)*

- 5a. ☐ In accordance with 37 CFR § 1.97(e)(1), it is stated that each item of information contained in this Information Disclosure Statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this Information Disclosure Statement.  
5b. ☐ In accordance with 37 CFR § 1.97(e)(2), it is stated that no item of information contained in this Information Disclosure Statement was cited in a communication from a foreign patent office in a counterpart foreign application and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in this Information Disclosure Statement was known by any individual designated in §1.56(c) more than three months prior to the filing of this Information Disclosure Statement.

6. ☒ This is a continuation/divisional/continuation-in-part application under 37 CFR § 1.53(b).

*(Check appropriate Items 6a and/or 6b)*

- 6a. ☒ Copies of the publications listed on the attached Form PTO-1449 which were previously cited in prior application Serial No.10/233,471, filed on September 4, 2002, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, have been omitted pursuant to 37 CFR § 1.98(d).  
6b. ☐ Copies of the publications listed on the attached Form PTO-1449 which were not previously cited in prior application Serial No. \_\_, filed on \_\_, and which is relied on for an earlier effective filing date for the subject application under 35 U.S.C. § 120, are provided herewith.

7. ☐ This is a continuation/divisional application under 37 CFR § 1.53(d) or a Request for Continued Examination under 37 CFR 1.114.

*(Check either Item 7a or 7b)*

- 7a. ☐ The Issue Fee has not been paid.  
7b. ☐ A Petition to Withdraw from issue under 37 CFR § 1.313(c) is filed concurrently herewith or has been granted. A continuation/divisional application under 37 CFR § 1.53(d) or a Request for Continued Examination under 37 CFR 1.114, after payment of the Issue Fee, is proper in accordance with 37 CFR § 1.53(d)(1)(ii) or 37 CFR 1.114(a), respectively.

8. ☐ This is a Supplemental Information Disclosure Statement.

*(Check either Item 8a or 8b)*

- 8a. ☐ This Supplemental Information Disclosure Statement under 37 CFR § 1.97(f) supplements the Information Disclosure Statement filed on \_\_\_\_\_. A bona fide attempt was made to comply with 37 CFR § 1.98, but inadvertent omissions were made. These omissions have been corrected herein. Accordingly, additional time is requested so that this Supplemental IDS can be considered as if properly filed on \_\_\_\_\_.  
8b. ☐ This Supplemental Information Disclosure Statement is timely filed within one (1) month of the Notice under 37 CFR § 1.97 and 1.98, mailed \_\_\_\_\_.

9. ☐ In accordance with 37 CFR § 1.98, a concise explanation of what is presently understood to be the relevance of each non-English language publication is:

*(Check appropriate Items 9a, 9b, 9c and/or 9d)*

- 9a. ☐ satisfied because all non-English language publications were cited on the enclosed "English language version of the search report or action which indicates the degree of relevance found by the foreign office". (See MPEP § 609, Minimum Requirements for an Information Disclosure Statement, Part A(3): Concise Explanation of Relevance, 8th Ed.)  
9b. ☐ set forth in the application.  
9c. ☐ satisfied because an English language translation (complete or relevant portion(s)) is attached to each non-English language publication.  
9d. ☐ enclosed as Attachment 1(e), hereto.

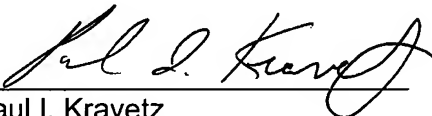
10. No admission is made that the information cited in this Statement is, or is considered to be, material to patentability nor a representation that a search has been made (other than search report(s) from a counterpart foreign application or a PCT International Search Report, if submitted herewith). 37 CFR §§ 1.97(g) and (h).

11. The Commissioner is authorized to credit any overpayment or charge any additional fee required under 37 CFR § 1.17 for this Information Disclosure Statement to Deposit Account No. 19-3935.

Respectfully submitted,

STAAS & HALSEY LLP

Dated: December 2, 2003  
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FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO.	APPLICATION NO.
		1095.1234D	Divisional of 10/233,471
		FIRST NAMED INVENTOR	
		Masaki SUGIYAMA, et al.	
LIST OF REFERENCES CITED BY APPLICANT  (Use several sheets if necessary)		FILING DATE	GROUP ART UNIT
		December 2, 2003	

## U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	6,580,843	6/17/03	Doi et al.	385	14	4/5/01
	AB	2003/0169478	09/2003	Sugiyama et al.	359	321	
	AC	6,584,240	06/2003	Doi et al.	385	2	
	AD						
	AE						
	AF						

## FOREIGN PATENT DOCUMENTS

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB- CLASS	TRANSLATION YES NO	
	AG							
	AH							
	AI							
	AJ							
	AK							
	AL							

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

							TRANSLATION YES NO	
	AM							

EXAMINER	DATE CONSIDERED
EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	

FORM PTO-1449	U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	ATTORNEY DOCKET NO. 1095.1234D	APPLICATION NO. Divisional of 10/233,471
LIST OF REFERENCES CITED BY APPLICANT  (Use several sheets if necessary)		FIRST NAMED INVENTOR Masaki SUGIYAMA et al.	
		FILING DATE December 2, 2003	GROUP ART UNIT

## U.S. PATENT DOCUMENTS

*EXAMINER INITIAL		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	AA	6,304,685 B1	10/16/01	Burns			

## OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)

	AB	Madabhushi, R, "Microwave Attenuation Reduction Techniques for Wide-Band Ti:LiNbO <sub>3</sub> Optical Modulators," IEICE Trans. Electron, Vol. E81-C, No. 8, August 1998, pp. 1321-1327.
	AC	Noguchi, K., et al., "Low-voltage and broadband Ti :LiNbO <sub>3</sub> modulators operating in the millimeter wavelength region," OFC '96 Technical Digest, pp. 205-206.
	AD	Noguchi, K., et al., "Characteristics of ridged Ti :LiNbO <sub>3</sub> optical modulator," Proceedings of the 1992 IEICE Spring Conference, Tokyo, Japan, March 24-27, C-206, with English translation.
	AE	Burns, W.K., et al., "Low Drive Voltage, Broad-Band LiNbO <sub>3</sub> Modulators With and Without Etched Ridges," Journal of Lightwave Technology, vol. 17, No. 12, December, 1999, pp. 2551-2555.
	AF	Noguchi, K., et al., "Push-Pull Type Ti :LiNbO <sub>3</sub> Optical Modulator for 40 Gb/s Optical Transmission Systems," Proceedings of the 1999 IEICE General Conference, Keio University, Yokohama, Japan, March 25-28, 1999, C-3-126, page 280, with English translation.
	AG	Kawano, K., et al., "Consideration on High-Speed and Wide-Band Optical Modulators," 1998 Autumn National Convention Record, IEICE, September 6-9, 1988, C-195, with English Translation.
	AH	Noguchi, K., et al., "Push-Pull Type Ridged Ti :LiNbO <sub>3</sub> Optical Modulator," IEICE Trans. Electron., Vol. E79-C, No. 1, January 1996, pp. 27-31.
	AI	Noguchi, K., et al., "40-Gbit/s Ti :LiNbO <sub>3</sub> Optical Modulator with a Two-Stage Electrode," IEICE Trans. Electron., vol. E81-C, No. 8, August 1998, pp. 1316-1320.
	AJ	Sugiyama, Masaki, et al., "Driver-less 40 Gb/s LiNbO <sub>3</sub> Modulator with Sub-1 V Drive Voltage," OFC 2002, March 17, 2002.

EXAMINER	DATE CONSIDERED
<p>*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.</p>	